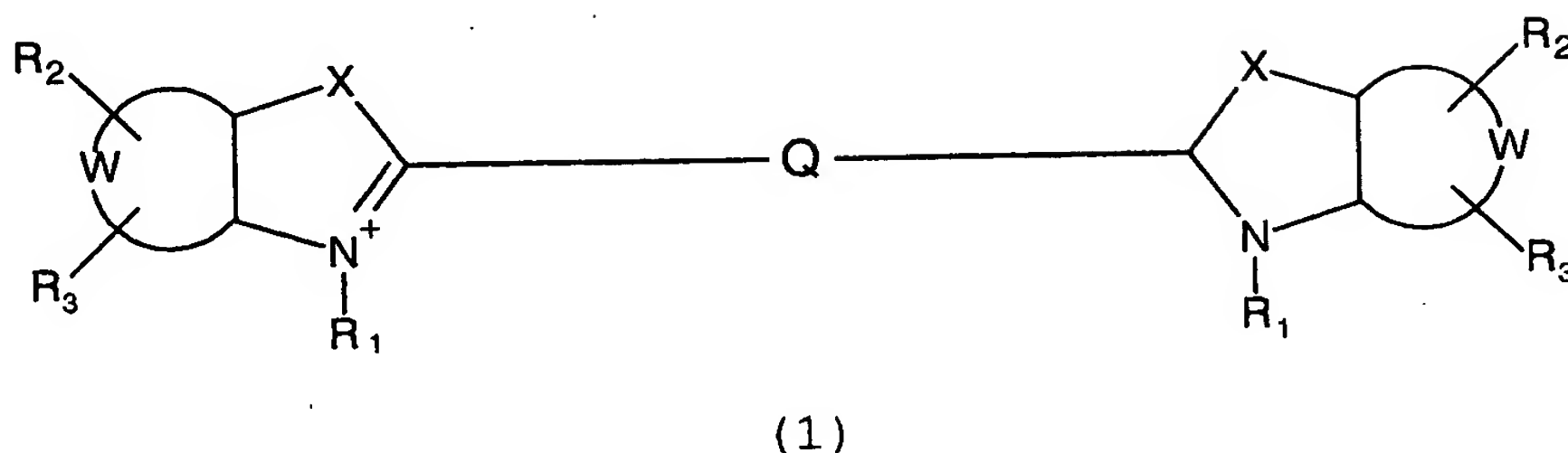WHAT IS CLAIMED IS:

1.  A symmetric cyanine of the formula:



(1)

wherein:

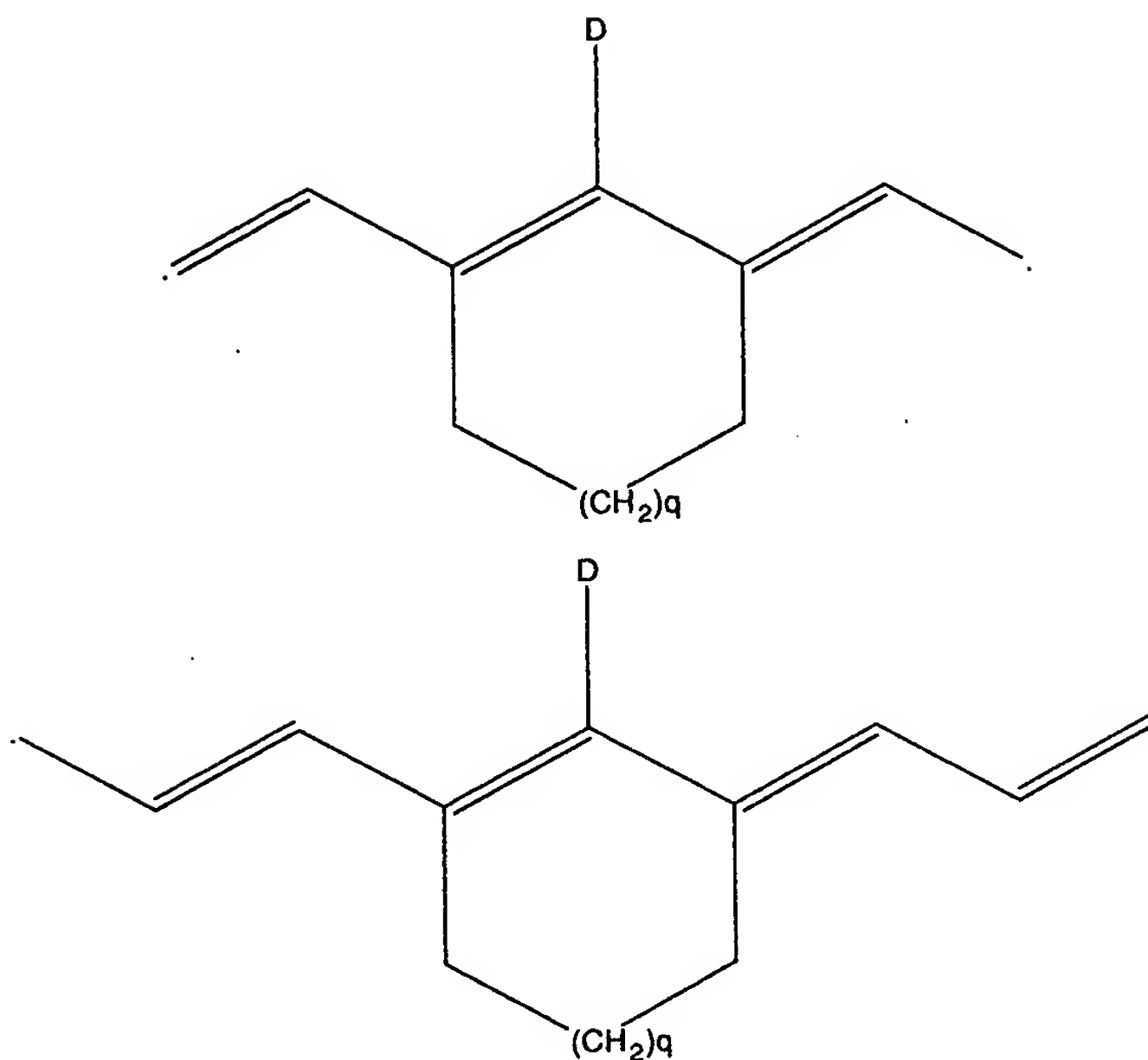X is selected from the group consisting of O, S and $C(CH_3)_2$;

W represents non-metal atoms required to form a benzo-condensed or a naphto-condensed ring;

$R_1$ is selected from the group consisting of $(CH_2)_nCH_3$, $(CH_2)_nSO_3^-$ and $(CH_2)_nSO_3H$, wherein n is an integer selected from 0 to 6 when $R_1$ is $(CH_2)_nCH_3$, and n is an integer selected from 3 to 6 when $R_1$ is $(CH_2)_nSO_3^-$ or $(CH_2)_nSO_3H$;
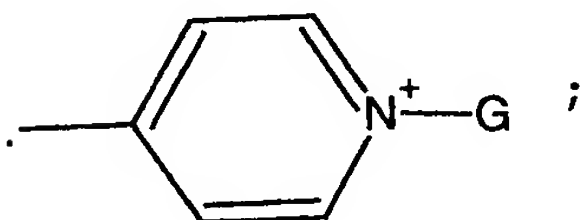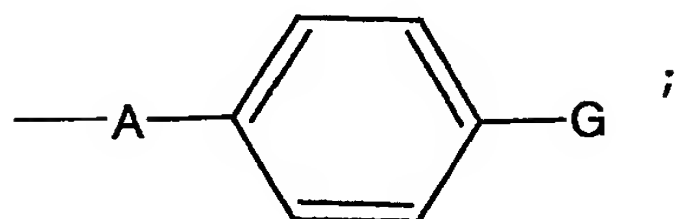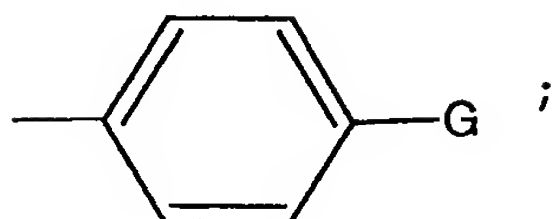
$R_2$ and $R_3$ are independently selected from the group consisting of H, a sulphonic moiety and a sulphonate moiety;

Q is selected from the group consisting of:
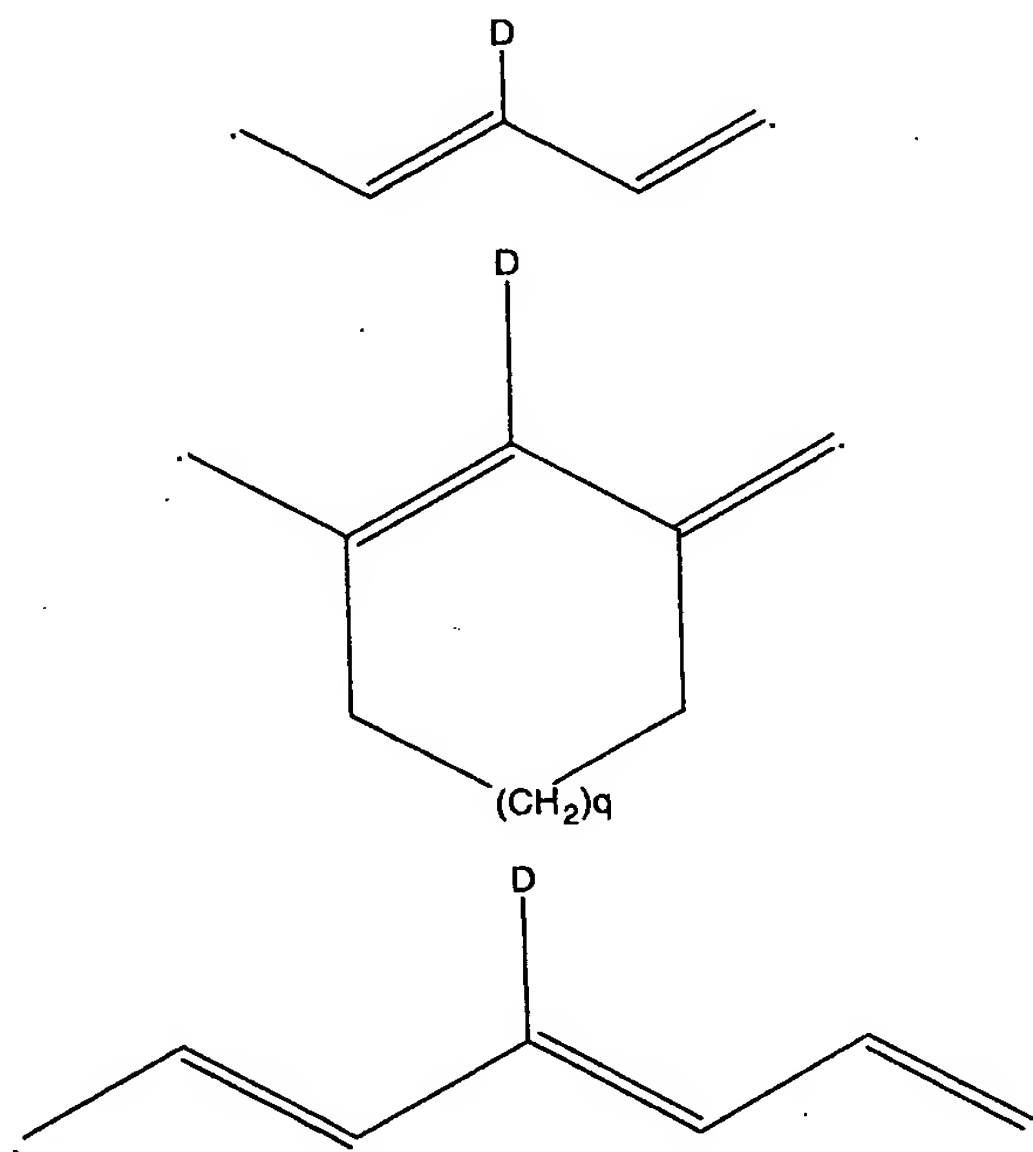
wherein q is 0 or 1 and D is selected from the group consisting of:

—C≡C—G;







wherein A is O or S;

G is a nucleophile moiety selected from the group consisting of $(CH_2)_mNH_2$, $(CH_2)_mSH$, $(CH_2)_mY(CH_2)_pOH$, $(CH_2)_mY(CH_2)_pNH_2$ and $(CH_2)_mY(CH_2)_pSH$, wherein Y is selected from the group consisting of -NH-, -CONH-, -O- and -S-, m is an integer selected

from 0 to 6 and p is an integer selected from 1 to 6; or wherein G is a moiety capable of reacting with N, O or S nucleophiles, and is selected from the group consisting of $(CH_2)_mCOOH$, $(CH_2)_mglycidyl$, $(CH_2)_mmaleimide$, $(CH_2)_mCO-NHS$, $(CH_2)_mCO-imidazole$, $(CH_2)_mSO_2CH=CH_2$, $(CH_2)_mCONHNH_2$, $(CH_2)_mCHO$, $(CH_2)_mY(CH_2)_pCOOH$, $(CH_2)_mY(CH_2)_pglycidyl$, $(CH_2)_mY(CH_2)_pmaleimide$, $(CH_2)_mY(CH_2)_pCO-NHS$, $(CH_2)_mY(CH_2)_pCO-imidazole$, $CH_2(CH_2)_mO-PAM$, $(CH_2)_mY(CH_2)_pSO_2CH=CH_2$, $(CH_2)_mY(CH_2)_pCONHNH_2$, $(CH_2)_mY(CH_2)_pCHO$ and $(CH_2)_mY(CH_2)_pO-PAM$, wherein Y, m and p have the meanings indicated above.

2. A symmetric cyanine according to claim 1, wherein at least one of the moieties $R_1$ to $R_3$ is, or contains a sulphonic moiety or a sulphonate moiety.

3. A symmetric cyanine according to claim 1, wherein X is $C(CH_3)_2$.
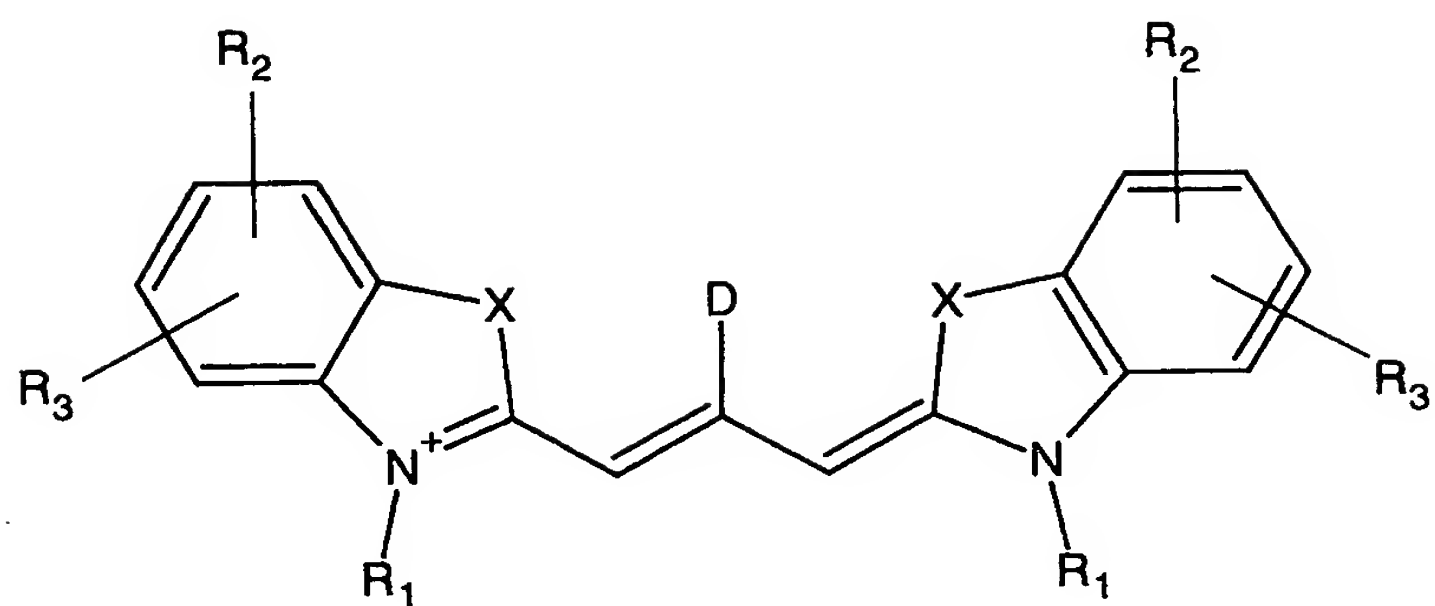
4. A symmetric cyanine according to claim 3, wherein one of the moieties $R_2$ and $R_3$ is a sulphonic moiety or a sulphonate moiety.

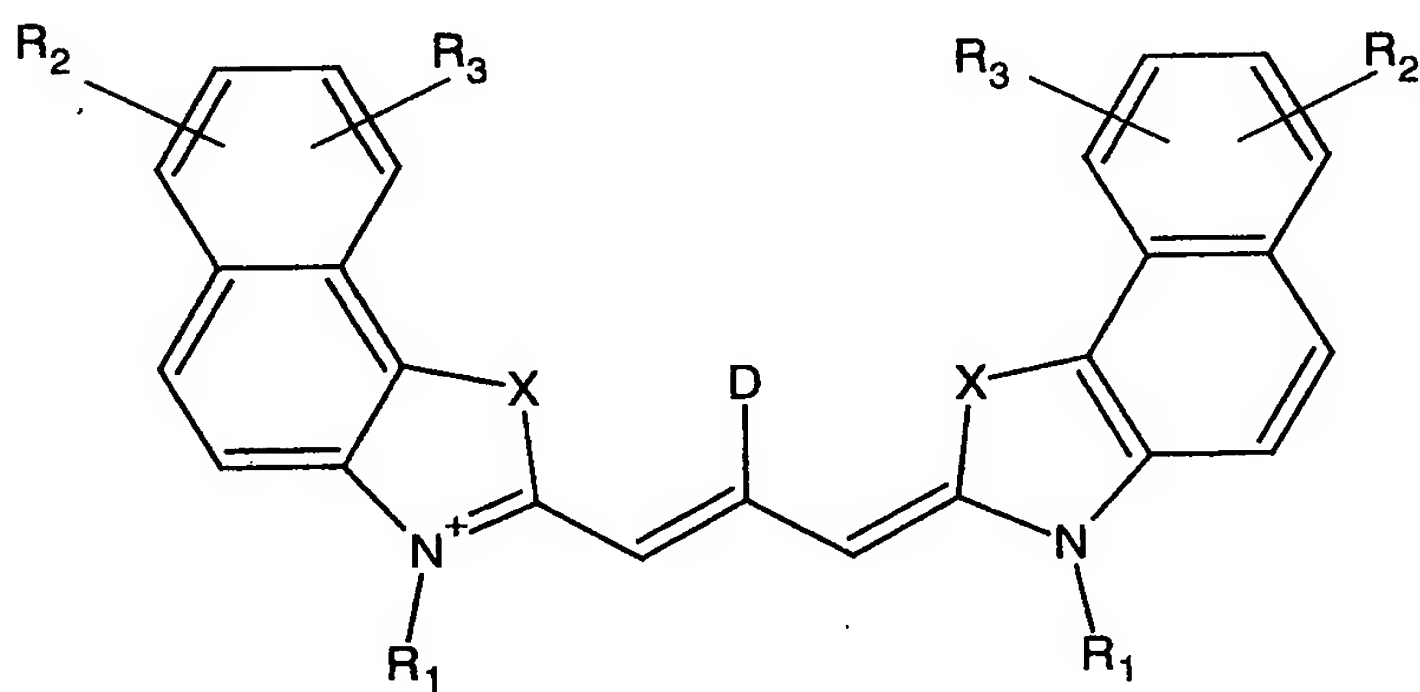5. A symmetric cyanine according to claim 4, wherein $R_1$ is $(CH_2)_nSO_3^-$ or $(CH_2)_nSO_3H$.

6. A symmetric cyanine according to claim 1, wherein X is S and $R_1$ is $(CH_2)_nSO_3^-$ or $(CH_2)_nSO_3H$.

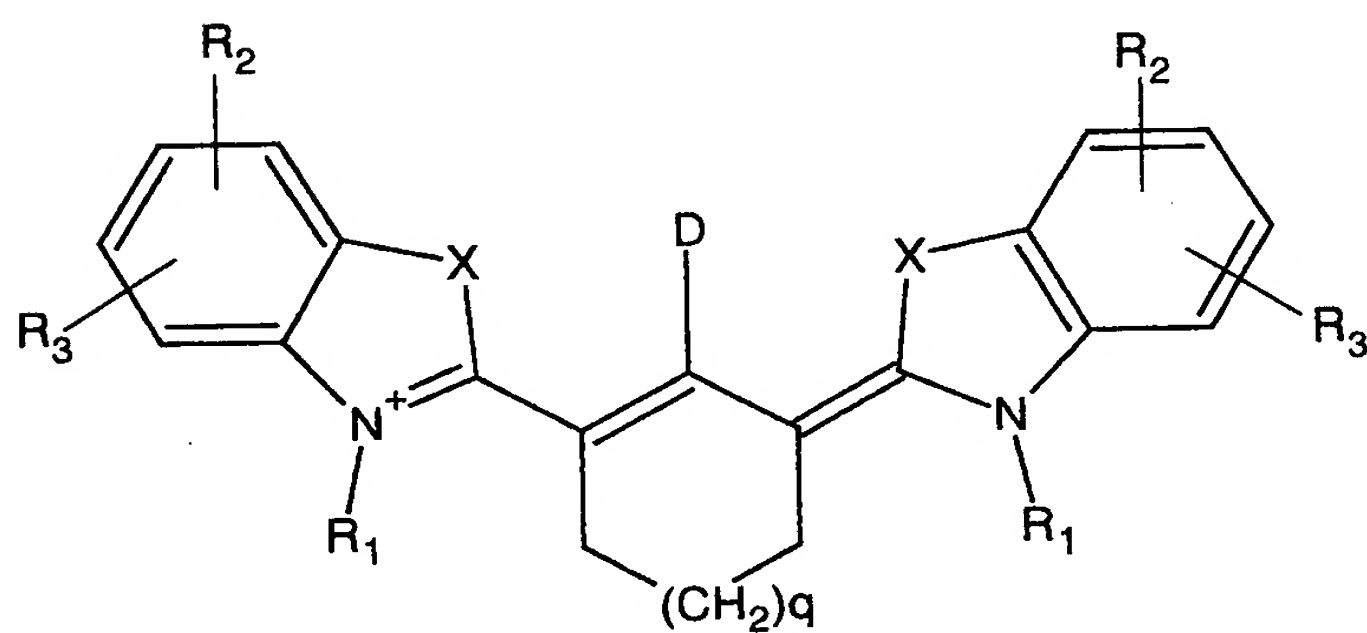7. A symmetric cyanine according to claim 1 having any of the formulae 2a to 2l:

R_2

R_3

X
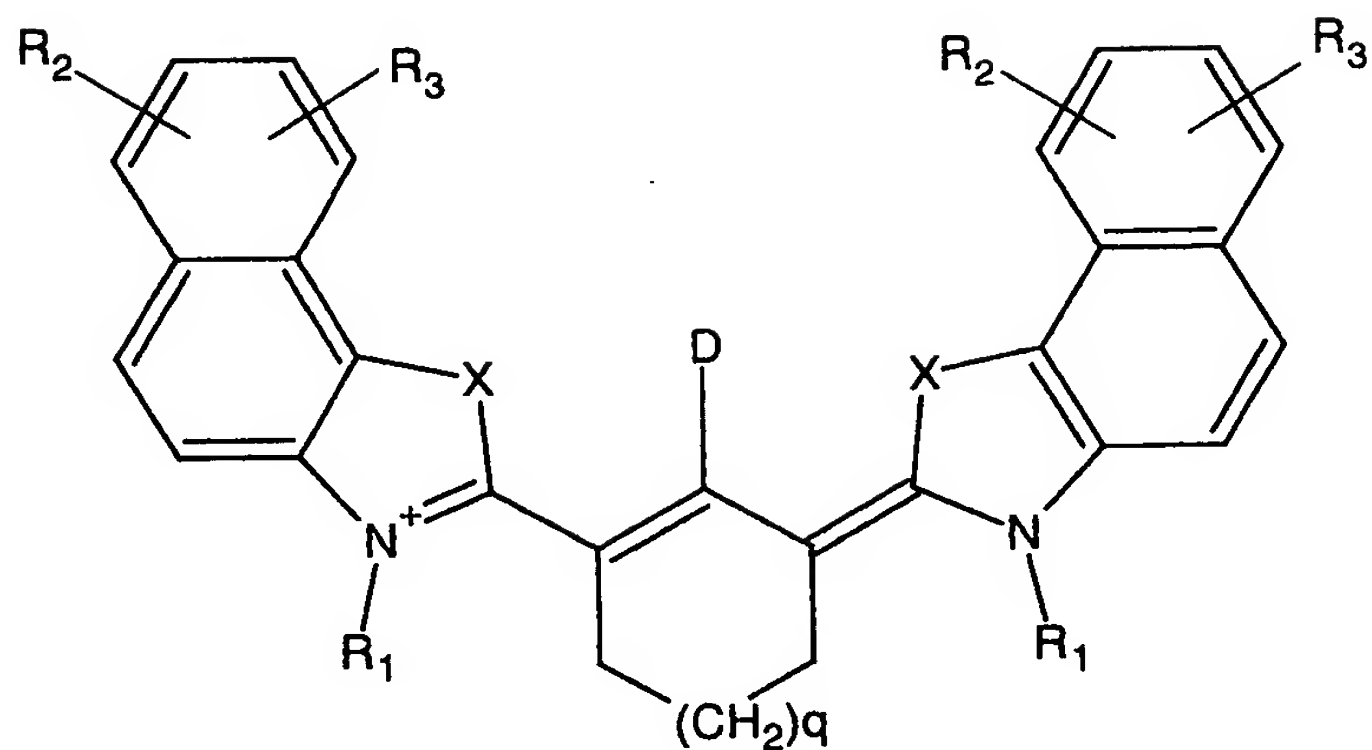
D
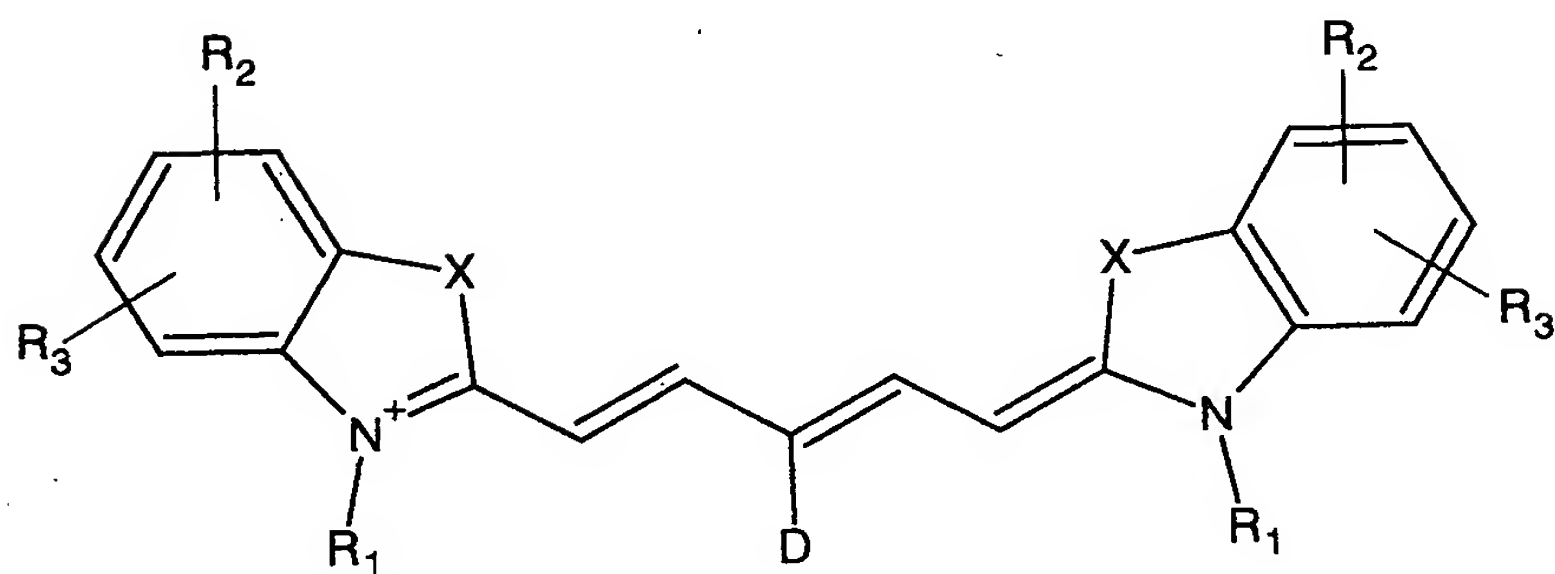
X

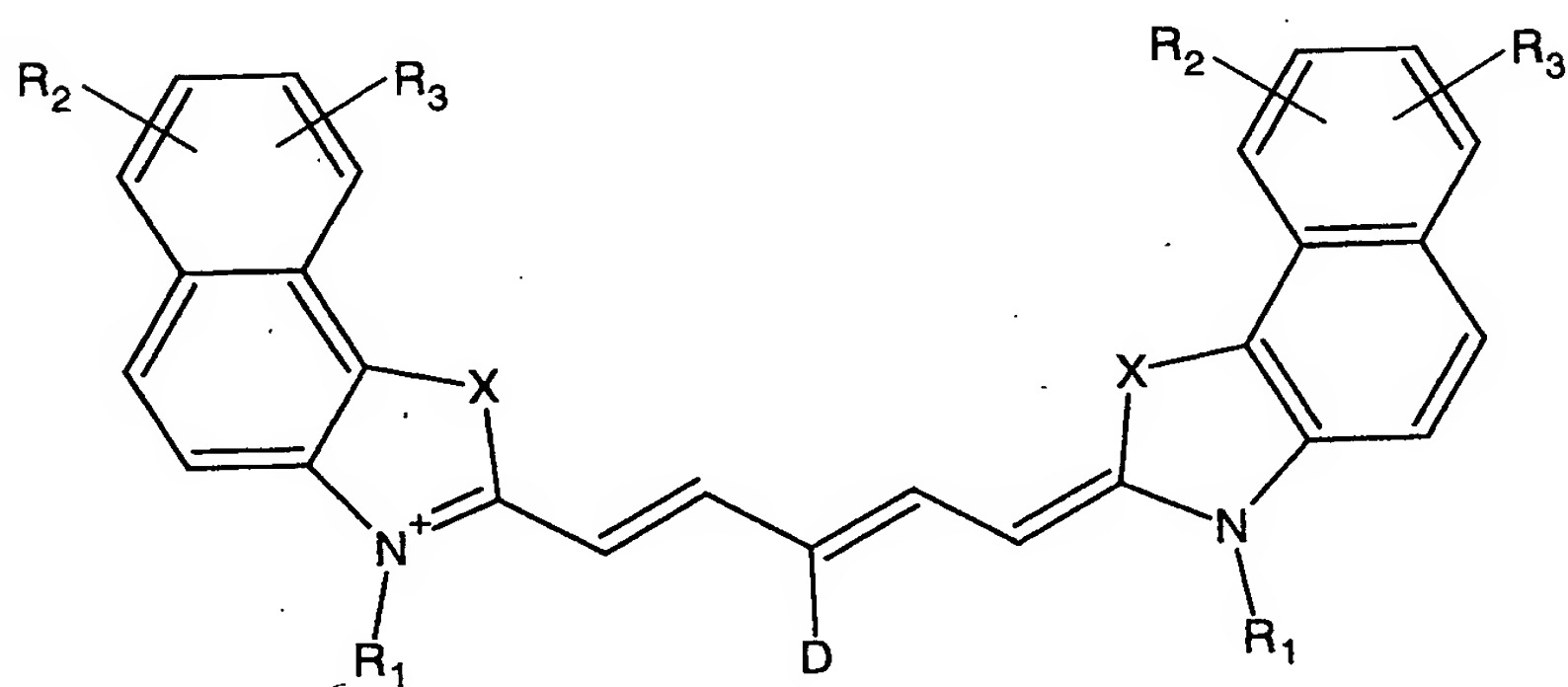R_2

R_3

N^+

N

R_1

R_1

2a

R_2

R_3

R_3

R_2

X

D

X

N^+

N

R_1

R_1

2b

R_2

R_3

X

D

X

R_2

R_3

N^+

N

R_1

R_1

(CH_2)q

2c
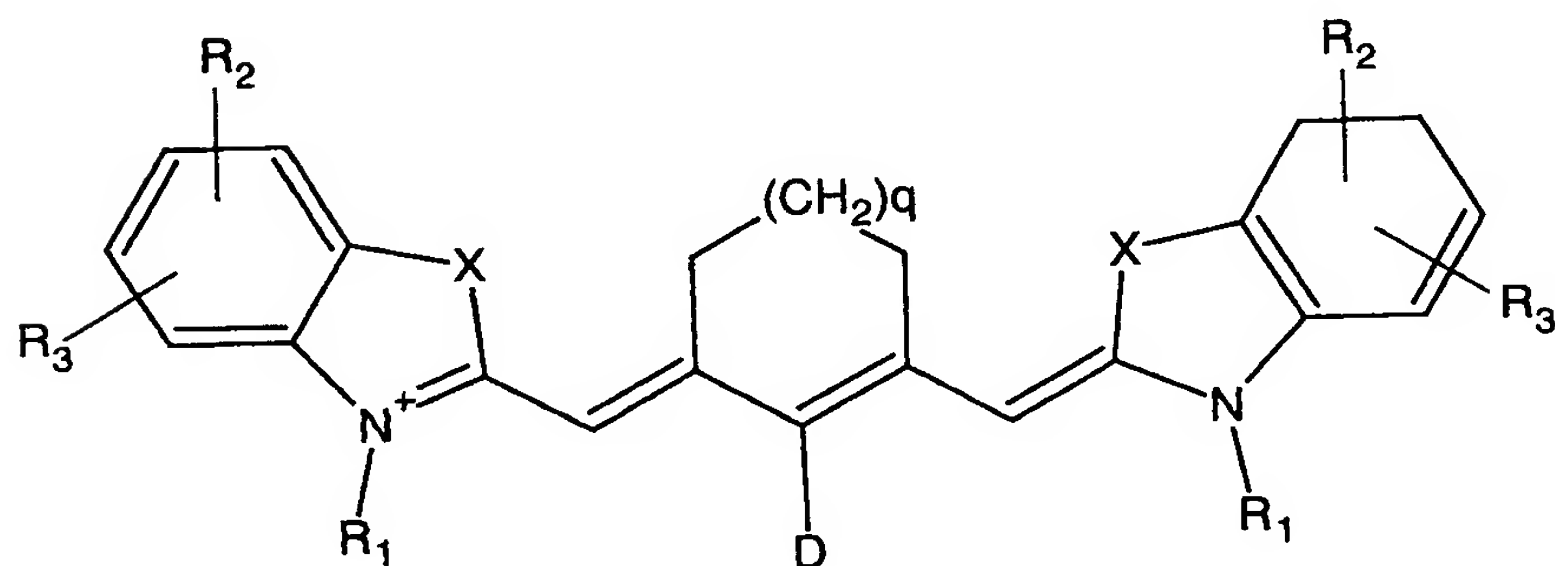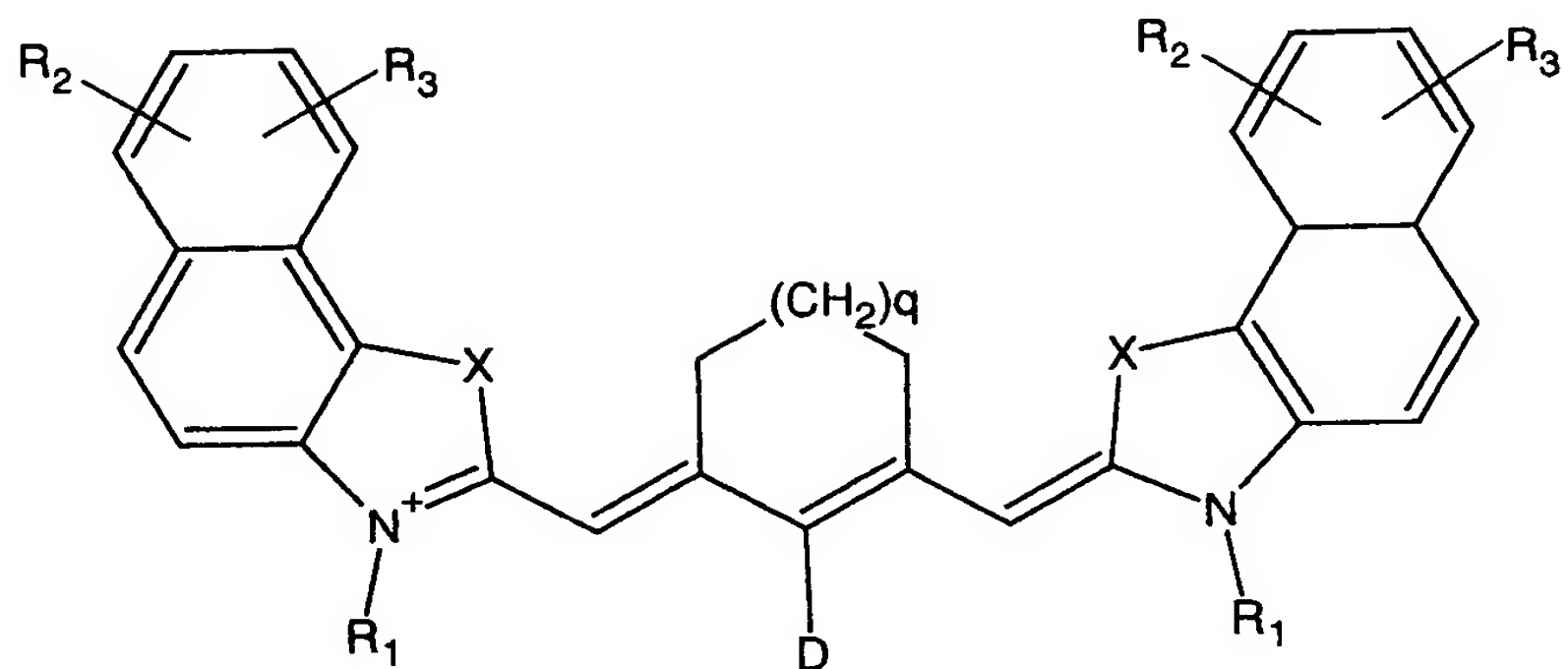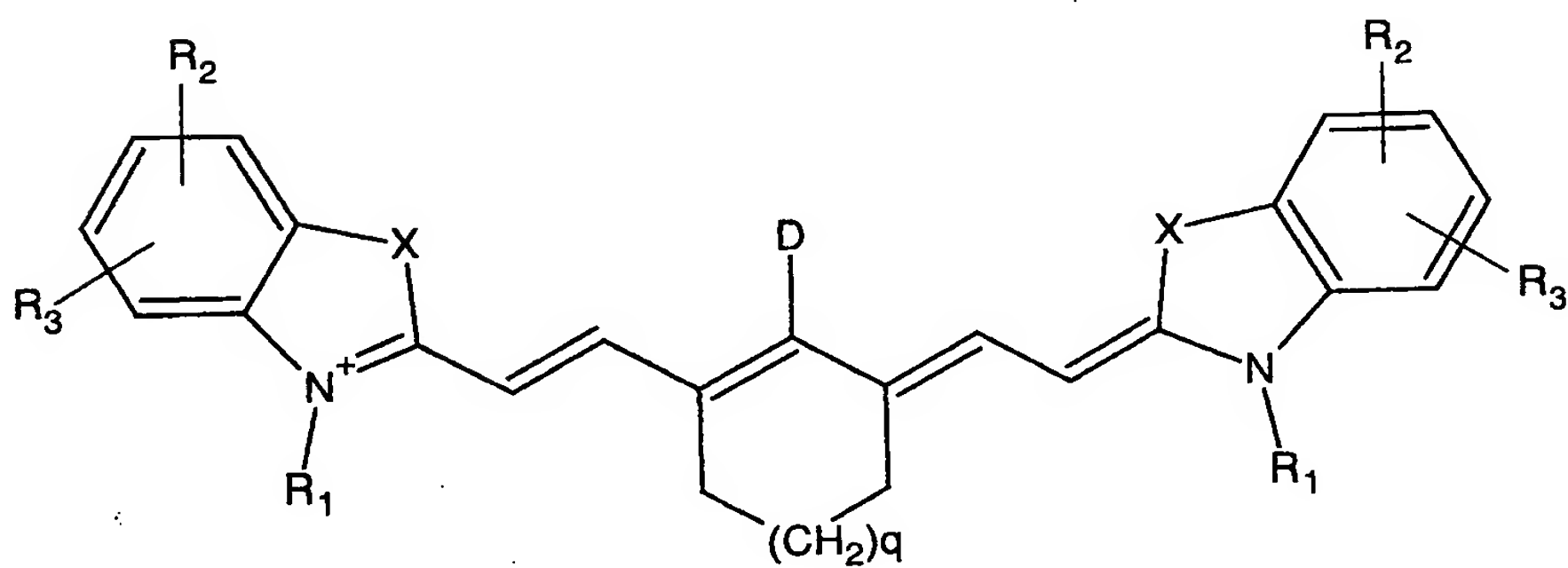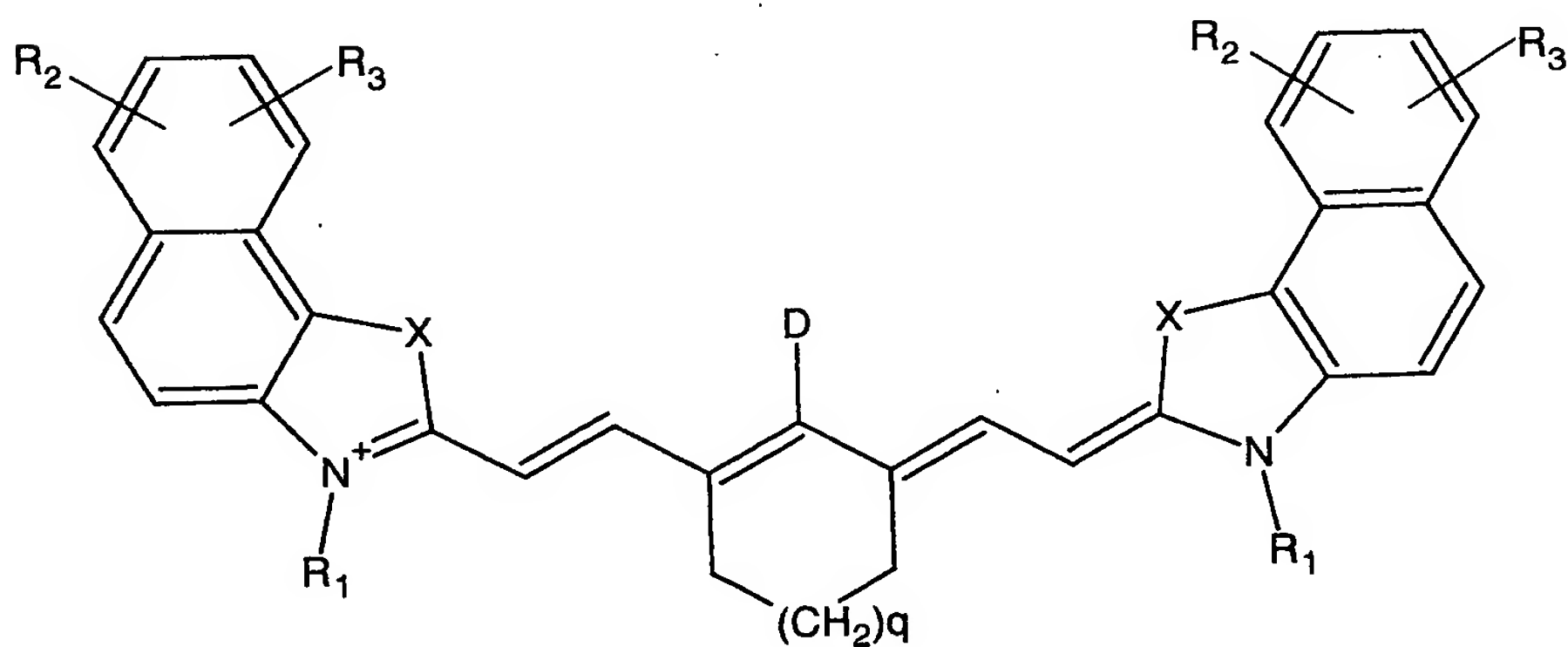
2d

2e

2f

2g

2h



2i



2l

wherein $R_1$, $R_2$, $R_3$, X, q and D have the meanings indicated in claim 1.